EXPANDING OPPORTUNITIES FOR BROADCASTERS COALITION

Talking Points for 6/15/2015 Meeting with Incentive Auction Task Force

Introduction

The purpose of this meeting is to present the results of new simulations conducted by Professor Cramton and his team that demonstrate the strong policy benefits of the proposals that our Coalition made in response to the *Auction Comment Public Notice*.

In the past three months, we have made substantial progress in our ability to replicate the reverse auction both as initially proposed by the FCC and with important enhancements. Most importantly, we have developed the capacity to fully replicate the Commission's inter-service interference impairment methodology. This allows us to predict the amount of impairment caused by various clearing target and reserve pricing scenarios. Using this revised methodology, we have run 180 full auction simulations to provide the most fact-based, scientific recommendations.

Attached to these talking points is a revised copy of the Cramton Team's detailed paper regarding design issues for the Incentive Auction.

The Commission Should Do Everything Possible to Adhere to the Current Auction Timeline

We appreciate the extraordinary efforts that the FCC and particularly the Staff are making to keep the auction on schedule. The Incentive Auction already has been delayed twice and neither the FCC, nor the industry, nor the American public can afford to wait any longer.

The results of the AWS-3 auction have provided a tremendous boost to broadcaster interest in the Incentive Auction. Now is the time for the Commission to seize upon that interest. Delay will have the opposite effect.

Meanwhile, demand for wireless spectrum continues to grow at an exponential rate. By acting now, the FCC will help ensure that available spectrum continues to meet consumer demand.

There is no compelling argument for delay. SNL Kagan, Peter Cramton, and the Brattle Group all agree that wireless carriers have ample access to capital and incentive to show up for an auction in 2016.

There Are Compelling Reasons to Modify the Opening Price Formula

We continue to be concerned that the pricing proposal set forth in the *Auction Comment Public Notice* departs

from the FCC's commitment in the *Report and Order* to set prices so that "a station with a high potential for interference will be offered a price that is higher than a station with less potential for interference to other stations."[1] We have explained our concerns extensively both in our comments and in prior meetings.

We now also have compelling evidence—backed by 180 complete reverse auction simulations—that modifying the proposed pricing formula will result in a more robust auction that is more likely to reclaim 126 MHz of spectrum on a near-nationwide basis for mobile broadband use.

Our simulations have focused on comparing two primary variables:

- The first variable is the volume component. The FCC has proposed to equally weigh a station's interference count and its broadcast population by taking the square root of each. In addition to this formulation, we also considered the Coalition's minor yet important revision, which lessens the discrimination based on a station's broadcast population by reducing the exponent applied to that figure from 1/2 to 1/4.
- The second variable is the base clock price. The *Auction Comment Public Notice*, which was drafted before the results of the AWS-3 auction, proposes a

[1] *Expanding the Economic and Innovation Opportunities of Spectrum Through Incentive Auctions,* Report and Order, 29 FCC Rcd, 6567 ¶ 450 (2014) ("*Report and Order*").

base clock price of $900. To better reflect the value of spectrum after AWS-3, we also considered prices of $1,250 and $1,500.

To test the performance using each of these variables, we accounted for an additional factor over which the Commission has no control – individual station reservation values. Because these can be difficult to predict, we developed a base value assumption and then tested the performance of each set of variables assuming that station reservation values are 50%, 100%, 150%, and 200% higher than our assumptions.

These simulations produced several interesting and important takeaways:

- Using both the Coalition's revised pricing formula and a higher base price results in dramatically improved broadcaster participation (Cramton 53) and less loss of over the air viewing alternatives for consumers (Cramton 57). The result is a more robust auction that better serves the public interest.
- In fact, using these improved metrics, and assuming relaxed channel sharing rules, we found that the Commission can reliably clear 126 MHz on a near-nationwide basis with only very few markets in which a top four affiliate, Univision affiliate, or top-rated public broadcaster relinquishes its spectrum. Even in those few instances, it is highly likely that the stations would continue to broadcast either through channel sharing or a move to VHF.

Our simulations show that the FCC can clear 126 MHz and not create any new DMAs not served by a noncommercial station (assuming channel sharing, impairment, or resolution of Canadian allotments in the Detroit DMA).

- Finally, our simulations show that increasing the base clock price and using our revised pricing formula only increases the total cost of the reverse auction by 5%. Our simulations show that the total cost to clear 126 MHz is about $35 billion with the benchmark reservation values (Cramton 55). At the same time, the Cramton team estimates that the forward auction should conservatively generate almost $85 billion in revenue (Cramton 24).

Just as importantly, using both the Coalition's revised pricing formula and a higher base price satisfies the economic law of one price (Cramton 59). That is, reducing the weight placed on a station's broadcast population and increasing the clock price results in similarly situated stations receiving similar prices. Using the FCC's proposed formula results in pricing gaps that are 53% larger than those produced using the reweighted volume (Cramton 62).

The Commission Should Set the Initial Clearing Target to Maximize Reallocation of Unimpaired Spectrum in Major Markets

The central goal of the Incentive Auction is to reallocate as much spectrum as possible to support the exponential increase in mobile broadband use. At the same time, the Commission must balance the amount of spectrum reallocated with the quality of that spectrum. Impairment destroys spectrum value by reducing the usability of spectrum for wireless use. But not all impairment is created equal. Some impairment is unavoidable in a limited number of markets with border constraints. The FCC should reduce the amount of additional, artificial impairment—especially in the largest markets with the greatest need for spectrum.

Our simulations show that the Commission can both simplify the process and achieve superior results by focusing on the maximum amount of spectrum that can be reclaimed with minimal impairment in New York and Los Angeles—whichever is greater (Cramton 41-42). By setting the national clearing target based on New York and LA, the FCC can avoid the concern that has been highlighted by other commenters that the FCC's proposed target setting method, with its 20% allowable weighted impairment, will counterproductively reclaim the most spectrum in the markets where it is needed least. Instead, this proposal ensures that spectrum will only be cleared in rural markets to the extent that it

facilitates harmonization with the spectrum being cleared in New York and/or LA.

Note that to enhance the robustness of our proposal, we now recommend allowing very limited impairment—up to the equivalent of 15% impairment in each of two blocks—in the market that sets the national clearing target (either LA or New York.) Simulations indicate that this rule, combined with higher starting prices, leads to successful clearing of 126 MHz a high fraction of the time, often with almost zero impairment outside of border regions.

The Commission Should Either Abandon the Notion of a Separate Reserve Price Entirely or Adopt a Round Zero Reserve.

The problems with Dynamic Reserve Pricing (DRP) are well established. Fortunately, our simulations show that DRP is unnecessary. By increasing opening prices and adopting our proposal for setting the clearing target, the universe of stations that the Commission would need to "freeze" at the start of the auction could be as low as a dozen stations (Cramton 52). Given the extremely limited utility of reserve pricing, it makes no sense to implement a procedure that breeds such a great deal of distrust and concern.

In addition, our simulations have uncovered DRP's Achilles Heel. To properly implement DRP requires a full channel-assignment optimization between rounds of

the reverse auction. However, this is impractical because full optimization is expected to require days, not hours, to complete. In the absence of full optimization, the FCC will need to rely on some kind of impairment estimate, but our analysis has indicated that the errors associated with these estimation techniques can be larger than the impairment thresholds themselves, rendering the estimates completely unreliable as a basis for determining when to turn DRP off. Therefore we see no current computational option that would allow the FCC to implement DRP in both a timely and reliable manner.

DRP is also disastrous from a public policy standpoint. Under the FCC's proposal, DRP would greatly increase the amount of impairment, resulting in less spectrum reallocated to satisfy growing demand for mobile broadband and devaluing the spectrum that is reallocated.

If the Commission insists on implementing some form of reserve pricing to address the limited number of stations that would be frozen at the start of the auction, it should implement Round Zero Reserve (RZR). The concept of RZR is that any station that would be frozen at the start of the auction will receive a RZR price offer that is equal to or less than its opening bid. The station could accept the offer and relinquish its spectrum or reject the offer and be repacked. Once the RZR round is complete, the auction would continue on a market-basis.

A key question is how to determine the RZR price. We believe the best approach applies a multiplier to a station's opening price based on the AWS-3 auction prices of PEAs covered by the station's contour. With this formula, the average RZR multiplier is approximately 57% (Cramton 13). However, in top markets such as New York, Los Angeles, and Chicago, the multiplier is always above 90%, assuring that RZR pricing will not cause value-destroying impairment in these critical markets.

The RZR approach has several benefits when compared to DRP. First, it is narrowly tailored to address the specific issue the Commission is trying to address–stations that freeze at the start of the auction. Second, it is simpler and easier for broadcasters to understand. Finally, it reduces the total amount of impairment, perhaps substantially (Cramton 54-55).

The simplicity of the RZR approach should be attractive to the Commission. The reverse auction is already much more complex than any auction a government has attempted to implement; DRP raises the complexity bar by several orders of magnitude. Not only does this pose serious implementation risks for the FCC, it harms transparency and broadcaster trust, damaging broadcaster participation.

The FCC Should Provide Participating Broadcasters With Greater Transparency – Visibility Into The Activity In The Auction

As we believe the Commission understands, broadcasters must have the opportunity for price discovery if the auction is to succeed. To quote the FCC's outside auction economist, Paul Milgrom, "when bidders are uncertain about their valuations, they can acquire useful information by scrutinizing the bidding behavior of their competitors . . . weaken[ing] the winner's curse and lead[ing] to more aggressive bidding."[2]

At the same time, we understand and appreciate the Commission's concern about not wanting to provide information that can somehow be used to "game" the auction.

We believe the FCC can balance these interests by reporting, at the end of each round, station vacancy information by DMA. Our simulations show that DMA-based vacancy information provides useful information to bidders considering alternative strategies, but not so much information as to facilitate collusive strategies (Cramton 48-49). For the few DMAs that have only a small number of stations, the FCC can combine these with the closest neighboring DMA.

[2] Paul R. Milgrom and Robert J. Weber, A Theory of Auctions and Competitive Bidding, 50 Econometrica 1095 (1982).

The FCC Should Use Lower Bid Increments for the Reverse Auction

Also critical to price discovery is the pace of the auction. The proposed bid decrement of 3-10% is both too large and too unpredictable. A fixed price decrement of 1% of the station's opening price per round, meanwhile, would limit the duration of the auction while, at the same time, providing broadcasters with the information and predictability that they need to make difficult decisions about sharing, shifting to high or low VHF, or exiting the auction. (Cramton 63-64).

There are two benefits to this approach. First, low, fixed bid decrements will simplify auction participation by allowing broadcasters to predict in advance what their offer will be in each round of the auction. Second, lower bid decrements will provide broadcasters with an opportunity for price discovery–particularly in the early rounds of the auction. (Cramton 62-63). A fixed 1% decrement will balance the duration of the auction (capped at 100 rounds) with the needs of reverse auction participants.

The Commission Must Adhere to Its Decision in the Report and Order to Adopt Intra-Round Bidding

In the *Report and Order*, the Commission committed to "provide participating broadcasters with the optional flexibility of 'intra-round bidding.'"[3] There is no reason to

[3] *Report and Order* ¶ 455.

abandon this approach. Intra-round bidding simplifies bidding by allowing bidders to express their true preferences. (Cramton 66). Given the benefits of intra-round bidding and the lack of a downside, the Commission should fully implement this procedure.